

REMARKS

Applicants respectfully request reconsideration of this Patent Application, particularly in view of the above Amendment and the following remarks. No additional claim fee is required for this Amendment as the number of independent claims is not more than three, and the total number of claims is not more than previously filed.

Should any additional claim fee be required, the undersigned authorizes the Commissioner to charge Deposit Account 19-3550.

Amendment to the Claims

Claims 1 and 34 have been canceled and new independent Claim 37 has been added. Dependent claims have been canceled or amended in view of new Claim 37. New dependent Claims 38-40 have been added. Support for this Amendment can be found in original Claim 1 and, for example, at pages 6 and 9 of the Substitute Specification. No new matter has been added to the claims by this Amendment.

Claim Objections

The above Amendment renders moot the objections noted on pages 2-3 of the Office Action.

Claim Rejections - 35 U.S.C. §102

The rejection of Claims 1-8, 10, 11, 20-24, 26, 30, 32, and 33 under 35 U.S.C. §102(b) as being unpatentable over De Bock et al., U.S. Patent 5,893,018, is respectfully traversed. Claim 1 has been canceled and replaced with Claim 37. The applicability of the De Bock et al. Patent will be discussed in regard to Claim 37.

On page 2 of the Substitute Specification, Applicants note a process disclosed in U.S. Patent 5,988,068 that seeks to improve the transfer of toner from a transfer medium to a substrate surface by applying heat to each of the substrate and the transfer medium through corresponding heating elements. Applicants further describe how this known process is disadvantageous when dealing with ceramic toners due in large part to a “doughy” consistency.

The claimed invention provides a solution for ceramic or glass-based toners through a printing device that cools the transfer medium and heats the substrate before the transfer of toner from the transfer medium to the substrate in a transfer zone. The claimed device includes a heating element for the substrate upstream of the transfer zone and a cooling device for the transfer medium downstream of the transfer zone.

The Office Action applies the De Bock et al. Patent, and notes that the embodiment of FIG. 10 includes a heating element 70 for the substrate and a cooling

device 110 for the transfer medium. However, the printer 10 in FIG. 10 does not disclose or suggest Applicants' recited structural element of a "transfer medium comprising one of a transfer roller or a transfer belt and including a contact face having a temperature lower than a surface of each of the heated substrates entering the transfer zone."

As discussed at column 19, line 40, through column 20, line 5, the *transfer belts* 146/148 of the De Bock et al. Patent are *heated* upstream by heaters 109/111, and also again within the transfer zone by heated roller 150. Like the prior art discussed at page 2 of the Substitute Specification, the De Bock et al. Patent explicitly seeks to improve toner transfer by heating both the transfer medium and the substrate. This is neither functionally nor structurally equivalent to the claimed invention for the reasons stated above.

The De Bock et al. Patent also does not disclose or suggest Applicants' recited supply of toner powder comprising ceramic or glass paste particles mixed in a plastic toner powder matrix, or a transport system comprising a plurality of roller bodies disposed in a horizontal configuration in a transfer zone beneath a transfer medium and on which each of the substrates is supported and transported through the transfer zone.

The claimed invention also is limited to the use of toner powder comprising ceramic or glass paste particles with a plastic or glass substrate. Although the De Bock et al. Patent discloses that the geometry of the device may define a substantially straight path for heavier and/or less flexible substrates (col. 11, lines 6-12), the De Bock et al. Patent discloses neither a toner nor a transport system that can transport a glass or thick or rigid plastic substrate. One of ordinary skill in the art would understand from the drawings and supporting disclosure that the device of the De Bock et al. Patent is merely for soft substrates such as paper. The figures show that the transport direction of the substrate is essentially vertical and changes from the vertical direction to the horizontal direction by a roller. FIG. 15 of the De Bock et al. Patent shows further curving of the substrate. One of ordinary skill in the art would not have understood that the device of the De Bock et al. Patent could be used or provide instruction for the substrate and toner materials of the present invention.

For at least these reasons stated above, the De Bock et al. Patent does not anticipate new Claim 37, or claims depending therefrom.

Claim Rejections - 35 U.S.C. §103

The rejection of Claims 12, 13, 17, 19, 27, 28, 31, and 34 under 35 U.S.C. §103(a) as being unpatentable over De Bock et al., U.S. Patent 5,893,018, in

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view of Masuda et al., U.S. Patent Publication 2002/0159785, is respectfully traversed.

The Masuda et al. Patent is applied for teaching temperature sensors. However, the combination of the De Bock et al. Patent and the Masuda et al. Patent does not overcome the deficiencies discussed above.

The rejection of Claims 14, 15, 18, and 29 under 35 U.S.C. §103(a) as being unpatentable over De Bock et al., U.S. Patent 5,893,018, in view of Masuda et al., U.S. Patent Publication 2002/0159785, and further in view of Behnke et al., U.S. Patent Publication 2002/0088799, is respectfully traversed.

The Behnke et al. Patent is applied for teaching pyrometers. However, the combination of the De Bock et al. Patent, the Masuda et al. Patent, and the Behnke et al. Patent does not overcome the deficiencies discussed above.

The rejection of Claim 36 under 35 U.S.C. §103(a) as being unpatentable over De Bock et al., U.S. Patent 5,893,018, in view of Malhotra et al., U.S. Patent 6,096,443, is respectfully traversed. Claim 36 has been canceled. The Malhotra et al. Patent is applied for plastic substrates. However, the combination of

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the De Bock et al. Patent and the Malhotra et al. Patent does not overcome the deficiencies discussed above.

New Claims

New dependent Claims 38-40 include subject matter discussed above, and these claims are patentable for at least these same reasons.

Conclusion

Applicants intend to be fully responsive to the outstanding Office Action. If the Examiner detects any issue which the Examiner believes Applicants have not addressed or resolved in this response, the undersigned attorney requests a telephone interview with the Examiner.

Applicants sincerely believe that this Patent Application is now in condition for allowance and, thus, respectfully request early allowance.

Respectfully submitted,



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